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Pediatrics for Parents

The newsletter for people who care for children

Richard J. Sagall, MD, Editor

In this Issue...

Cough Syrup and Dental Decay

Liquids and syrups are the best way for children with problems swallowing pills to take their medications. However, if the proper precautions are not taken, the syrups and liquids may promote dental decay.

Taking syrups, particularly cough syrups, at bedtime, is particularly tough on teeth. Cough syrups are acidic and contain a lot of sugar. This combination causes erosion of dental enamel. A dose now and then doesn't make much difference, but children who take these medicines regularly may be putting their teeth at risk for decay.

"The main concern is when children take medicine at night," said Paul Bussman, DMD, a spokesperson for the Academy of General Dentistry. Because saliva flow decreases at night, the detrimental effects of syrups are worse when given at bedtime.

He continued, "I would suggest that parents give the medicine an hour before bedtime and then have the child brush the teeth, or at least rinse them. Also, you don't want children drinking milk or juice before bedtime without brushing or rinsing afterwards."

Pediatric News, 05/06

Tonsils and Behavior

If your child has large tonsils that cause obstructive sleep apnea syndrome (OSAS) or mild sleep disorder breathing (SDB) and behavioral problems, removing his tonsils and adenoids (adenotonsillectomy) may help.

Children with OSAS may actually stop breathing while sleeping, which causes them to suddenly awaken and then go back to sleep. Obstructive sleep apnea syndrome results in poor quality sleep, daytime drowsiness, and even falling asleep during the day. Sleep disorder breathing may cause some of the same problems.

Forty children three to eighteen years old with either OSAS (23) or SDB (17) were evaluated with standardized tests for sleep quality and behavior before having an adenotonsillectomy and then three months post surgery. When re-evaluated, all the children showed significant improvement in both areas.

According to Ron Mitchell, MD, a pediatric laryngologist at Virginia Commonwealth University in Richmond, "Without a control group, all we can say is that adenotonsillectomy and improved behavior were associated, not necessarily correlated."

Pediatric News, 12/06

Top Ten Ways to Keep Your Children Healthy This Winter

By Roy Benaroch, MD

Along with colder weather comes a busy time for congestion, coughing, and diarrhea. Here are my top ten suggestions to keep your children healthy and safe this winter.

10. **Avoid Sick People**. It should go without saying, but sick people carry wintertime germs. If you don't want the infections, stay away from people who are ill.

9. **Avoid the Chill**. Your grandmother was right – recent research confirms that cold temperatures make it more difficult for your nose to prevent germs from invading. So bundle up!

8. **Eat Right**. While there's no credible evidence that megavitamins will give you any extra boost, a healthy balanced diet is essential to good health.

7. **Get Enough Sleep**. Sleep is an important time for your body to recover, and lack of sleep increases your vulnerability to infection.

6. **Get Some Exercise**. Though too much exertion increases your risk of injury and illness, a moderate amount of regular exercise helps boost immune function.

5. **Immunize**. Routine childhood immunizations provide critical protection against bloodstream infections, pneumonia, and other serious illnesses. And don't neglect to take advantage of influenza vaccinations each winter.

4. **Protect Your Family at Home**. Keep children away from your furnace. Install and check the batteries on smoke and carbon monoxide detectors. Children should know their own fire action plan by the time they reach school age.

3. **Avoid Choking Hazards**. New toys may include tiny parts that might not be safe for a younger sibling, and grandma's house may not be as "babyproofed" as your own.

2. **Drive Safely**. Winter traffic hazards include wet, icy weather and overindulgent drivers heading home from holiday parties. Use car seats and seat belts correctly; avoid driving in inclement weather; and absolutely do not get behind the wheel if you've been consuming alcohol.

1. **Wash Your Hands**. Frequent hand washing or the use of alcohol-based hand sanitizer are the best ways to prevent infections.

Roy Benaroch, MD, FAAP is an Associate Clinical Professor of Pediatrics with Emory University, and is in private practice with Pediatric Physicians, PC in Atlanta. His first book, A Guide to Getting the Best Health Care for Your Children*, is now available.*

Dirty Pagers

Pagers may be hazardous to your health - if a healthcare provider touches the pager or turns the pager off while providing patient care. Stethoscopes, otoscopes (instruments to look in ears), laboratory coats, cellular phones, computer keyboards, and patient charts are known to harbor disease-causing germs. Now you can add pagers to that list.

In a recent study, all sides of 100 pagers from doctors, residents, medical students and other healthcare workers were pressed onto culture plates. The plates were then incubated to see what grew - and a lot did. All grew bacteria and 12 grew pathogenic bacteria - bacteria that can cause serious illnesses or infections. Only eight of the healthcare workers said they ever cleaned their pagers.

If healthcare workers don't wash their hands after touching their pagers, they may spread germs from one patient to another. And, since good hand washing is the best way to decrease the spread of germs, healthcare workers need to remember to wash their hands after touching their pagers.

Pediatric Infectious Diseases Journal, 11/06

Asthma Stats

Percentage of children affected by asthma by race and ethnicity:

White 7%
Black 12%
Hispanic 6%
Multiracial 11%
Other 7%

Pediatric News, 07/06

Get the Scoop on Croup

By Anne Steigerwald

Many parents can recognize the hoarse, rough-sounding cough of croup. But what they often don't know are the other indications that their child has croup. Parents need to be able to decipher if croup is serious. Here is some information to help you become familiar with the causes, symptoms and treatments of croup.

What is Croup?

Croup is an inflammatory condition of the lining of the upper airway, especially around the vocal cords and upper windpipe (trachea). If you could see the lining of an airway affected by croup, it would appear swollen and red. Croup leads to a distinctive barking cough, and in younger children with smaller airways, it can cause trouble breathing. Croup usually occurs in children three months to three years old. Most children outgrow croup after age five because their windpipes are larger. Your child may get croup more than once.

What Causes Croup?

Anything that causes inflammation to the lining of the upper airway can cause croup symptoms. Overwhelmingly, the most common cause is infection with a respiratory virus. The same viruses often cause laryngitis, cough illnesses in older children and adults. The viruses most commonly involved in croup are parainfluenza virus, adenovirus, repiratory syncytial virus (RSV), influenza and measles. Because croup is usually caused by a virus, it cannot be treated with antibiotics. Croup is most likely to occur October through March but can happen at any time.

What are the Symptoms of Croup?

Your child can have a painful, bark-like cough (like a seal's bark). If there is enough swelling, your child will have difficulty breathing, especially breathing in, with a distinctive noisy "catch" called stridor. When the child is having trouble breathing, you can sometimes see his skin between his ribs or in the front of his neck move in and out with respirations. If there is trouble breathing, your child may be anxious and/or restless. Your child may have a high fever, low fever or no fever. Your child may also have a sore throat or a previous runny nose a few days prior to croup onset. He or she may be breathing quickly. Blueness around the lips or the rest of the skin is only present in severe croup when a child is not getting enough oxygen. Your child may drool or have trouble swallowing. Sometimes your child may be too tired from the difficulty of breathing to eat or drink. Symptoms of croup become worse when your child is anxious or agitated.

Your child will usually have his worst symptoms in the evening. There are several theories as to why croup is worse at night. The most probable ones have to do with the cycle of steroids in the body (it is lowest during the night) and also the blood flow in the respiratory tract changes when you are lying down. Croup can have a sudden onset. Your child can wake up in the middle of the night with a croup cough having had no other symptoms during the daytime.

What are the Treatments for Croup?

Home Treatments

Breathing in cool or moist air can sometimes help to lessen the symptoms of a croup attack. Try turning on the shower in the bathroom with the door closed for ten or fifteen minutes. This will produce a lot of moist air. Remember to keep your child calm during this period. Keep the child sitting up, which allows her to breathe more easily.

Cool air outside shrinks inflamed tissues lining the airway. During the winter months, try taking your bundled-up child outside for a few minutes. Or you can drive around in the car with the windows down and heat off to bring in cool air.

If your child is fast-breathing, breathing with stridor or appears blue around the mouth, call your child's doctor or seek medical attention as soon as possible.

Hospital Treatments

Steroids are used to reduce swelling of the airways. These can be given orally, by an intravenous route (IV) or with a shot into the muscle. If the swelling needs to be reduced immediately, aerosolized racemic epinephrine is very helpful. Cool mist is also used, and extra oxygen if needed. A neck x-ray may be taken to determine if there is another cause of airway obstruction, such as a foreign body or bacterial infection. A bacterial infection of the upper airway, called bacterial tracheitis, requires hospitalization and intravenous antibiotics. If the x-ray shows no bacterial infection or other airway obstruction, but the swelling is severe, the airway can be kept open with a tube through the vocal cords and trachea, or in the worst – and rare – case a tracheotomy can be performed. Increasing or persistent breathing

difficulty accompanied by fatigue, bluish coloration of the skin, or dehydration could indicate your child has serious croup and should be hospitalized.

How Long Does Croup Last?

Croup usually is at its worst the 2nd or 3rd night. If it is a viral croup, it usually lasts less than a week. Sometimes as the croup symptoms lessen, the child is left with a cold and cough that can last 1-2 weeks.

Prevention

Croup is contagious. While there is no way to prevent croup or other viruses, adults, children, healthcare workers and childcare provider should frequently hand wash to thwart an onset of croup Avoiding people who have respiratory infections also reduces chances of spreading or catching viruses that cause croup.

The distinctive hoarse barking cough of croup is a common sound in pediatricians' offices from the fall through the spring. When first heard and seen by parents at home, croup can be a frightening experience. But most of these children have a mild disease that can be managed at home, often after checking in with their medical care provider. A short treatment with steroids has led to a significant decrease in the hospitalization rate of croup with few serious side effects. However, if a child has difficulty breathing that does not improve with home treatments, then parents should seek medical care. As children frequently wake in the middle of the night with their worst symptoms, this can mean a visit to your local emergency department.

Anne Steigerwald is a mother of two girls under four and a free-lance writer. She lives with her husband and daughters in the Pacific Northwest. She frequently writes about family, emotional and health subject matters.

Internet Porn and Your Adolescent

By Vikki Sloviter

A study published in the February 2007 issue of *Pediatrics* found that 42% of Internet users ages 10-17 had been exposed to online pornography. Janis Wolak, JD and her colleagues at the Crimes against Children Research Center at University of New Hampshire, administered a telephone survey to 1500 youth between March and June 2005 and found that 630 (42%) of the adolescents had come across either wanted or unwanted online pornography. Of the 630 children who had viewed online pornography, 413 (66%) had done so unintentionally.

The adolescents who had unintentionally come across the online porn had done so through file-sharing programs that download images onto the computer. The unwanted exposure rate was higher for teens, those who had been harassed or sexually solicited online or interpersonally victimized offline, and those who showed signs of depression (borderline range on the Child Behavior Checklist).

The picture is different for those adolescents who had wanted exposure to online pornography. These children tended to be boys, teens, download images using file-sharing programs, talk online to strangers about sex, use the Internet at friends' houses and rule break (borderline range on the Child Behavior Checklist).

Not surprisingly, children who used filtering and blocking software were less likely to experience unwanted exposure online pornography. Also, children who had attended an Internet safety presentation by a law enforcement agent were less likely to view unwanted images.

Though the study included only 1500 "nationally representative" youth, the results indicate that more adolescents than we may realize are exposed to both wanted and unwanted online pornography. Certain risk factors may increase a child's chance of coming across such online content, but it is clear that we need to keep an eye on our children and on their access to the Internet.

Vikki Sloviter received her BA in History of Science and Medicine from Yale University. She lives in Bucks County, Pennsylvania with her husband and three young children. She also proofreads, copy edits, researches and writes for Pediatrics for Parents *and* NeedyMeds.com.

PediaTrick

Clogged Inhalers

Before tossing away a seldom-used inhaler that you think isn't yet empty but that won't release the medicine, try soaking both the inhaler and the dispenser overnight in a bowl of water. Inhalers that are rarely used can dry out, clogging the inhaler's nozzle or the small hole in the dispenser. The soaking frees the dried medicine and brings the inhaler back to life.

Consultant, 12/06

Prolonged Bottle-Feeding Can Lead to Iron Deficiency in Toddlers

By Jane Brotanek, MD, MPH

Iron-deficiency anemia in infancy and early childhood is associated with behavioral and cognitive delays. Several studies have documented the delayed mental and psychomotor development and behavioral disturbances that result from iron-deficiency anemia and may persist into adolescence. Adverse consequences include impaired learning, decreased school achievement, and lower scores on tests of mental and motor development.

In the US, iron deficiency and iron-deficiency anemia affect 2.4 million and 490,000 children, respectively. Iron deficiency is the most common nutritional deficiency in childhood. Children nine to 24 months old are especially susceptible, since iron requirements are high during a period of rapid growth, increasing the likelihood that iron intake may not be sufficient to meet the needs of the growing child.

In iron deficiency without anemia, central nervous system iron stores decrease before restriction of red cell production; these biological changes have been shown to impair behavior in infants. Iron deficiency without anemia is much more common than iron deficiency with anemia, so its prevention is especially important.

Prolonged Bottle-Feeding and Iron Deficiency

Sufficient dietary intake of iron is essential for toddlers to maintain a positive iron balance and thus prevent iron-deficiency anemia. The American Academy of Pediatrics recommends that infants be introduced to the cup around six to nine months of age and be fully weaned from the bottle by 15 months to optimize appropriate feeding patterns. Despite these recommendations, as many as 8% of US children two to five years old are still bottlefed.

A recent study found that bottlefeeding your child for too long may put your child at risk for iron deficiency and anemia. The researchers found that the longer the duration of bottlefeeding, the higher the prevalence of iron deficiency among all children. The prevalence of iron deficiency was 3.8% among those bottlefed for 12 months or less, 11.5% in those bottlefed for 13-23 months, and 12.4% in those bottlefed for 24-48 months. Children bottlefed for more than 24 months were almost three times more likely to be iron deficient compared with children bottlefed for 12 months or less.

The likely mechanism through which prolonged bottlefeeding is associated with iron deficiency is the consumption of large volumes of cow's milk, resulting in the displacement of iron-rich foods from the diet. Until 12 months of age, infants are fed iron-fortified formula by bottle. After 12 months, pediatricians encourage parents to switch to regular milk. Children older than 12 months who are still being fed by bottle are most likely drinking lots of cow's milk, which is low in iron. That's not to say that milk is not good for toddlers. They need milk, but toddlers older than 12 months should drink no more than two cups of milk a day. Drinking large amounts of cow's milk decreases toddlers' appetite for the iron-rich foods they need and may also cause gastrointestinal blood loss. With increasing duration of bottlefeeding, the risk of iron deficiency is greater.

There are as many as 3.8 million US children at risk for iron deficiency and anemia because of prolonged bottlefeeding. Mexican-American children are especially at high risk for iron deficiency, with four out of every five still bottlefed past 12 months of age and two out of every five bottlefed past 24 months of age.

What Should Parents Do?

- Parents should transition their child from the bottle using the cup at nine months of age, so that by 12 months of age, their child is completely weaned from the bottle and drinking only from a cup.
- Parents should give toddlers iron-rich foods, which are important for their growth and well-being. These include beans, meats, iron-fortified cereals, eggs, and green leafy vegetables such as spinach.
- Toddlers older than 12 months should drink no more than two cups (16oz.) of regular milk a day. Cow's milk is low in iron, and drinking more than two cups of milk/day decreases a child's appetite for iron-rich foods.
- We encourage parents to speak to their child's physician about best nutritional practices to prevent iron deficiency and its detrimental effects on children's health.

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Children in Hospitals

By John E. Monaco, MD

Teens and Weeds

Normally, when one uses the word "teen" and "weed" in the same sentence, the conversation is invariably about marijuana use. The truth is that there are other, much less well known yet readily available, plants that kids will consume to get high. The problem is, these lesser-known weeds can be far more acutely dangerous – even life threatening – than the more well known weed, marijuana. Yet few people, especially kids, know how dangerous these plants can be. I became startlingly aware of this dangerous weed recently when I took care of a young man in our pediatric unit, whom I'll call Randy.

Randy is by all estimation a typical 15-year-old boy. He attends the local high school where he is enrolled in a fairly challenging curriculum and gets As and Bs. He lives alone with his mother since his parents split up recently. Randy experienced emotional difficulties after the break-up, had recently been seeing a counselor, and was even more recently placed on antidepressants. These facts may or may not have had a bearing on the events that followed.

It was late one evening, around midnight. Randy's mother had been asleep for a while when she heard thumping upstairs. She said later that it sounded like someone stumbling and bouncing off the walls. She went upstairs to investigate and found her son, Randy, in what appeared to be a delusional state. He was indeed stumbling, but he was conscious, at least he appeared to be. But she noticed he could not focus on her face, and she wasn't sure if he even recognized her. His face was flushed, and his lips looked dry and cracked. He mumbled unintelligibly and occasionally reached out to bat something away from his face, something that wasn't there. She grabbed him by the shirt, trying to shake some level of awareness back into him. He was able to focus on her for a moment, so she asked if he had taken anything.

Jimson Weed. That was what Randy told his mother he and a friend ate that night. Randy's friend knew what it was and had some growing behind his house. He told Randy that if he ate the leaves, he could get high. Randy asked his friend if it was safe. His friend responded that of course it was; one of his other friends did it frequently. So Randy tried it, since he was reassured of its safety by an apparent expert in the field.

Jimson Weed is in the category of plants that has anti-cholinergic effects; the effects are similar to those of the drug atropine. (Another common plant in this category is Angel's Trumpet, a beautiful, flowering innocent-looking plant that kids in search of a "natural" high use to make hallucinogenic tea). Simply put, atropine reverses the effects of acetyl choline, the neurotransmitter secreted by nerves like the vagus nerve, that acts to slow the heart rate, among many other activities. Symptoms of ingestion of these chemicals include high heart rate and blood pressure, dry mouth, widely dilated pupils, hallucinations, agitation, psychosis, seizures and occasionally coma and death. Obviously the severity of the symptoms depends largely on the volume ingested.

The frightening thing is that there is no real antidote to ingesting too much Jimson Weed or similar plants. Supportive care in an ICU setting is essential to head off and possibly treat the most severe complications. Randy was given large volumes of intravenous (IV) fluids to try to accelerate excretion, and he was sedated because he was highly agitated and was hallucinating. Randy is a big boy, around 200 pounds, so when he began to hallucinate and become violent, his mother and the nurses caring for him were frightened for their own safety. Intravenous sedation was necessary to protect them, and Randy himself. Other than that, time is the only treatment.

Randy was in our unit for three days. The first day he was combative, had very high heart rates and blood pressure and hallucinated wildly. Many of his hallucinations caused him fear and panic, which only worsened his combativeness. By the second day, and after multiple doses of IV Ativan, he calmed down some and eventually went into a deep sleep that lasted most of the second day. By the third day, the old Randy had re-emerged. His mother was thankful to have him back, and we were pleased to meet the "real" Randy, whose friends and family remained shocked by Randy's drug

use. In his defense, I tried to tell his supportive visitors that he did not know he was taking a "drug." He thought he was eating a few leaves that would make him feel good. After all, I reminded his mother, what was the purpose of his newly prescribed antidepressant? Wasn't it something he took to make him feel good? How could a few leaves found in a friend's backyard be more dangerous than that?

Later on the third day, when it was time for discharge, I had a very nice chat with Randy. I asked him if he was ever going to try Jimson Weed again. He showed me pictures he had obtained online and said that not only was he not going to do it again himself, but also that he was going to tell everyone he knew about the dangers of this innocuous looking weed. I thanked him for his public service, knowing there was a much better chance that kids would listen to him than to any of us.

John E. Monaco, M.D., is board certified in both Pediatrics and Pediatric Critical Care. His new book, Moondance to Eternity, *is now available. He lives and works in Tampa, Florida. He welcomes your comments, suggestions, and thoughts on his observations.*

Skating Injuries

By Christy Collins, MA

Skating is a fun activity for kids and combats obesity by promoting the adoption and maintenance of physical activity as part of a healthy lifestyle. However, most parents are unaware that young ice skaters are more likely to suffer head and facial injuries than roller or in line skaters. Recent research at the Center for Injury Research and Policy at Columbus Children's Research Institute found that young ice skaters are five to seven times more likely to suffer a concussion than roller skaters and in line skaters. Similarly, one in four ice skating injuries were to the face, while only one in twenty roller skating and in line skating injuries were to the face.

In an attempt to learn why these differences occurred, researchers from the Center for Injury Research and Policy studied hundreds of skaters' falls. They found that both ice skaters and roller/in line skaters tend to fall forward and almost all attempt to break their falls with their arms or hands. Because roller skaters and in line skaters often break their falls successfully with their arms and hands, they prevent injuries to the head and face but experience increased proportions of arm injuries. This is why wrist guards, elbow, and kneepads should be worn. Because ice skating occurs on a low friction surface, attempts to break falls with the arms and hands are often unsuccessful. This results in the head hitting the ice and head and facial injuries.

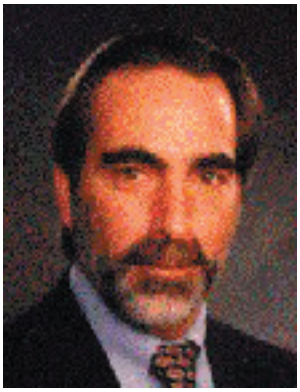
Ice will always be slippery, and kids will always enjoy ice skating. So, what can parents do to keep kids as safe as possible while they ice skate? While helmets have long been recommended protective gear for inline and roller skaters, no such recommendations currently exist for ice skaters. Because most ice skating falls are forward in direction, the standard helmet may not adequately protect the ice skater's face and front of the head from hitting the skating surface. A hockey style helmet with a facemask provides the best protection. However, for ice skating, the U.S. Consumer Product Safety Commission recommends bicycle, skateboard, and ski helmets.

A helmet will help reduce the risk of injury once the head hits the ice. However, the best way to prevent head injury is to prevent ice skaters' heads from hitting the ground in the first place. Researchers from the Center for Injury Research and Policy are currently designing a wrist guard with a non slip palm. The wrist guard feature would protect against upper extremity fractures and the attached non slip palm would prevent the outstretched hands from slipping on the ice during an attempt to break a fall, keeping the head and face from ever hitting the ice. While this protective equipment device is not yet on the market, hopefully it will be available soon.

In the mean time, here are some ways to prevent ice skating injuries this winter:

- Children should always wear an appropriate, well fitted helmet while skating.
- Children should always be supervised while skating.
- While on the ice, skaters should never be picked up or carried by a parent, another adult, or another child.
- New skaters in need of balance aids should be provided with sturdy aids free of sharp edges and hard corners.
- Adult monitors should separate children of different skating abilities when rinks are crowded.

Christy (Knox) Collins is a research associate in the Center for Injury Research and Policy at the Columbus Children's Research Institute. Her current research focuses on the epidemiology of sports, recreation, and leisure activity related injuries among children and adolescents.



Perspectives on Parenting

By Michael K. Meyerhoff, EdD

Battling Biting

Many years ago, when my wife owned and directed the largest child care center and preschool in the state, she had to deal with a ferocious two-and-a-half-year-old biter. The child had bitten several other children over the course of a couple of weeks, and then one morning he bit one of the teachers on the leg. My wife called the child's mother and told her that they needed to meet.

After my wife informed the child's mother of what had been going on and reported that none of the standard behavior management techniques seemed to be working, she explained that significant steps would have to be taken to control the situation. The child's mother gave her a quizzical stare and calmly replied, "What was your teacher's leg doing in my child's mouth?"

This seemingly ludicrous but true story illustrates the extent to which some parents will go to deny their young child's biting behavior. It is one of the more unpleasant, not to mention painful, behaviors that infants, toddlers, and preschoolers engage in. And moreover, it seems to be a behavior that is highly resistant to eradication.

There are, of course, no quick fixes. Furthermore, every child is unique and the relevant factors and circumstances can vary considerably. However, as always, any hope of a solution begins with understanding the developmental level of the child in question.

Up to about 14 to 16 months of age or so, biting ordinarily is more of a physical than behavioral problem. As the first teeth erupt through the gums, an infant can suffer a fair amount of discomfort, and teething brings relief. Unfortunately, at this stage, the infant is unaware of what constitutes an appropriate or inappropriate target for the teething. As a result, he is just as likely to chomp down on someone's arm if it is available as anything else.

At this point, the solution is quite simple. Try not to overreact or make a big fuss. Merely acknowledge the infant's need to relieve his discomfort and provide a suitable alternative. A safe, plastic, liquid-filled teething ring that has been refrigerated or even frozen will satisfy his teething needs and will reduce his interest in munching on human flesh.

From roughly one and a half to two and a half years of age, things get a little more complicated. Now biting is not used as much for personal comfort as it is employed as an interpersonal weapon. Whenever a toddler feels anger or frustration, he tends to lash out with one of the few tools he has to make his displeasure known; his teeth, regrettably, are usually most effective.

A parent's first job is to let the toddler know that biting will not be tolerated. If and when a toddler bites, he should be physically removed from the situation and held in a firm and confining hug for several minutes. He can be told that such behavior is improper and will not be permitted, and maybe some of the words will sink in. But it is the physical restraint that will truly get the message across.

Upon release, if he returns to the biting behavior, he will have to be physically restrained again, this time for a longer period. And parents must be prepared to repeat this process a number of times until an especially stubborn child finally realizes that he will not be allowed to bite.

In addition, if he has bitten another child, it is critical that all the fuss be made over the other child. Any attention the perpetrator receives should be completely dispassionate. Keep in mind that young children crave attention, so that even a harsh and heated reprimand will merely serve to reinforce the behavior and make it likely to reoccur.

The parent's next job is to deal with the fact that the toddler is angry, frustrated, or otherwise stressed. It is not fair to expect a young child to suffer stress for a prolonged period of time, particularly since he does not have access to drugs, alcohol, meditation, exercise, sex, and the various other stress relievers that adults avail themselves of on occasion.

Therefore, it is imperative that parents identify the source of the stress and take reasonable and possible steps to alleviate it. For example, a toddler may take to

biting when he feels a new baby sibling is stealing the parental attention and affection that used to be exclusively his. To help minimize your child's need to munch, make sure he receives at least a half hour of undivided and uninterrupted parental attention every day.

Which brings me back to the situation described at the outset. What did my wife do about the problem biter in one of her classrooms? Well, she recognized that large group situations are something that not every two and a half year old is developmentally ready to handle. In our modern-day society, it is routine for both parents to work and for young children to be placed in child care centers and preschools. But this is a relatively recent phenomenon. We never asked young children to deal with this situation – a situation created for the convenience of adults, not the benefit of children – with grace and aplomb. If a young child just can't yet handle large group environments, it is not his fault.

My wife kept a list of people in the community who offered home day care. These facilities obviously featured a more home-like setting along with considerably fewer numbers of children and a lot less hustle and bustle. She recommended that the biter be temporarily placed in one of those facilities. The child's mother, after some powerful persuasion, agreed to do so. The child did wonderfully well in the home day care. And six months later, after he had a chance to develop and mature more, he was re-introduced to the large child care center. This time he adjusted quite nicely, and there were no more biting incidents.

After two and a half to three years of age, things change again. At this stage of development, the biting child knows full well what he is doing and he knows full well that it is inappropriate. Biting becomes strictly a weapon to be used for aggressive or attention-getting purposes. Unless the preschooler bites strictly as a desperate defensive measure against a bigger and stronger aggressor, parents must take swift and sure disciplinary action.

While sending the child to "time out" for a few minutes is a good idea, this punishment should be employed merely as a "cooling off" period. Once the child has calmed down, the parent should remind the child that hurting people is not appropriate. And the parent should inform the child that whenever he is responsible for hurting someone, it will be up to him to make that person feel better. Since playing with his favorite toys makes him feel better, he should be told that the next time he bites, the victim will be given one of his favorite toys. A lot of kids get the message immediately, and few are willing to lose more than a couple of toys before they are satisfied their parents are serious and they decide to cease and desist.

In all cases, it is important to keep your cool. Resist the temptation to bite the child back – that may shock and hurt him, but it won't teach him anything meaningful. And remember that attention, even negative attention, may be just what the biting child seeks. So calmly and patiently institute a developmentally appropriate procedure, and you may be pleasantly surprised by how quickly this problem behavior passes.

Michael K. Meyerhoff, Ed.D., is executive director of The Epicenter Inc., a family advisory and advocacy agency located in Lindenhurst, Illinois. He may be contacted via e-mail at: epicntrinc@aol.com.

Fluoride Recommendations for Infants

In the right amount, fluoride is essential in preventing tooth decay. But in excessive levels, it may cause fluorosis (a mottling of the tooth enamel) which affects the appearance of teeth, but doesn't affect the strength of the enamel. If infants are given too much fluoride, their developing teeth may mottle before they erupt.

The American Dental Association recently issued a position statement titled "Interim Guideline on Fluoride Intake for Infants and Young Children" offered the following recommendations to parents, caregivers, and healthcare professionals:

- Breastmilk is widely acknowledged as the most complete form of nutrition for infants. The American Academy of Pediatrics recommends human milk for all infants (except for the few for whom breastfeeding is determined to be harmful).

- For infants who get most of their nutrition from formula during the first 12 months, ready-to-feed formula is preferred over other forms of formula to help ensure that infants do not exceed the optimal amount of fluoride intake. (Ready-to-feed formula has the proper level of fluoride.)

- If liquid concentrate or powdered formula is the primary source of nutrition, it can be mixed with water that is fluoride-free or contains low levels of fluoride to reduce the risk of fluorosis. Examples are water that is labeled "purified," "demineralized," "deionized," or "distilled." Reverse osmosis filtered water is also safe to use.

- The occasional use of water containing optimal levels of fluoride should not appreciably increase a child's risk of fluorosis.

American Dental Association, 11/06

Don't Throw Out the Baby with the Bath Water:
Antidepressant Medications in Children and Adolescents

By Neil S. Kaye, MD, DFAPA

Over the last two years, the use of psychiatric medications in children has been one of the most controversial issues in both psychiatry and the mainstream media. The focus recently has been on the use of antidepressant medications, but the arguments and venom are reminiscent of this same issue a few years ago when stimulants used for treating attention deficit disorder were the lightening rod. One side portrays the doctors as pill pushers, the pharmaceutical companies as profit-hungry doers of evil and the parents who allow their children to take medication as direct descendants of Satan. The other side portrays the doctors as saints, the pharmaceutical manufacturers as philanthropic research institutes and the parents as befuddled, well-meaning, loving and caring people. Mix in the FDA's "black box" warnings and public statements, and we have the "perfect storm" conditions for our bathtub.

What's a concerned parent to do? In fact, what is an honest, caring doctor to do? One week the news reports that the medications are lethal, and the next week they report they're safe. How can this be? Welcome to the world of science! Scientists aren't afraid to keep testing their hypotheses. Also, the media thrives on hype and the latest information, which may not actually be the best science. Remember, good news doesn't sell.

First, let's review the facts:

- Depression is common in children (2%) and adolescents (4-6%) and 50% will have recurrence in adulthood
- Suicide is the #3 cause of death in adolescents
- 4000 adolescents commit suicide each year
- 8.5% of high school students report a suicide attempt in the last year

So, there really is problem that needs to be addressed. We are also increasingly convinced that just as in adults, biology plays a role in child/adolescent mood disorders. Certainly stress and environment also play a role, but these external issues are superimposed on the child's internal physiology, mood disorders run in families and have at least some genetic basis.

The initial step is for the parent to identify that there might be a problem. Parents shouldn't be diagnosticians; leave that to the professionals. But, parents are the best observers of their children's behavior. When a child has a persistent, consistent change in behavior, there might be a problem. Look for objective symptoms such as changes in friends, sleeping, eating, concentration, hygiene, dress, or choice of music; social isolation or withdrawal; or loss of interest in hobbies/sports. Irritability or change in temperament is also a common presenting symptom.

Next, discuss your observations with your spouse/significant other and see if he/she concurs. If both partners are involved, having consensus and a shared approach works better and allows you to support each other through what might be a difficult cruise on stormy waters. Third, take the child to see a professional. This could be a psychiatrist (MD or DO), psychologist (PhD/PSYD), social worker (LCSW/MSW), or a licensed professional counselor (LPC). Get the professional's opinion and recommendation. Ask questions. How did she get her diagnosis and why is she suggesting a particular course? In most circumstances, the initial approach should be a non-medication approach – talking therapy or play therapy depending on the child's age. Family therapy is often advised as it helps to prevent labeling the child as "sick" and makes the whole family part of the solution. Childhood mood/behavior problems rarely occur in a vacuum.

Sometimes, talking therapy isn't sufficient. The symptoms are too entrenched, persistent or severe to respond to just talking interventions. This is where medications come into the picture. The issues with medication are actually quite simple: safety and efficacy. In the absence of efficacy, any risk is a concern. But, remember failure to prove efficacy is not proof of lack of efficacy. Where efficacy has been shown, how effective the medication is and what the most common and serious potential side effects are become the issues. I stress the word "potential," because manufacturers now list every side effect imaginable – from headache to death – on their product labels to protect themselves in litigation. Obviously, not all potential side effects occur in every person. In fact, in most people, only a few side effects occur, and these tend to be transient.

This is where getting your doctor to help you sift through the conflicting information you have heard, read, and seen on the Internet comes into play. If you

have concerns and questions, make sure the doctor answers the questions to your satisfaction before you get out of the chair. This is part of what doctors and lawyers call "informed consent." You, as the parent consenting to the treatment of your child, are entitled to know: the proposed treatment, the potential benefits, risks (side effects), treatment alternatives and expected course without any treatment. You are allowed to ask questions and must be able to understand the answers provided.

The FDA approved three serotonin reuptake inhibitors for use in children. These include fluoxetine (Prozac) for depression, sertraline (Zoloft) for obsessive-compulsive disorder ((OCD) but with an included review of the data in child depression), and fluvoxamine (Luvox) also for OCD. Nonetheless, it is within the standard of care for doctors to use medications "off-label," and the use of other antidepressants in children has been common.

In August 2003, Wyeth Pharmaceuticals sent physicians a letter stating that venlafaxine (Effexor) should not be used in youth due to no efficacy and a risk of increased hostility and suicidal behavior. In October 2003, the FDA issued a "Talk Paper" stating it was investigating antidepressants but that at that time, data were insufficient to suggest these medications caused an increase in suicidal or aggressive behavior. The FDA advised physicians to monitor patients for side effects and increased suicidal risk. On 3/22/2004, the FDA requested a warning label on all antidepressants to monitor/observe closely for worsening of depression and emergence of suicidality, and on 10/15/2004 the FDA officially issued a "black box warning" (label change) after re-analyses of all randomized clinical trails. However, it is important to note that there was not a single suicide in any of the controlled trials reviewed by the FDA. The FDA stated: "Pooled analyses of short-term (4 to 16 weeks) placebo-controlled trials of nine antidepressant drugs (SSRIs and others) in children and adolescents with major depressive disorder (MDD), obsessive-compulsive disorder (OCD), or other psychiatric disorders (a total of 24 trials involving over 4400 patients) have revealed a greater risk of adverse events representing suicidal thinking or behavior (suicidality) during the first few months of treatment in those receiving antidepressant." The average risk of such events in patients receiving antidepressants was 4%, twice the placebo risk of 2%. No suicides occurred in these trials.

The FDA also mandated that "A Patient Medication Guide about Using Antidepressants in Children and Teenagers" be made available for all parents and as suggested reading. The FDA has asserted that after starting an antidepressant, your child should generally see his or her healthcare provider:

- Once a week for the first four weeks
- Every two weeks for the next four weeks
- After taking the antidepressant for 12 weeks
- Twelve weeks after starting the medicaiton
- More often if problems or questions arise. Call your child's doctor between visits if needed.
- As recommended by your child's healthcare provider after the initial 12 weeks.

The key here is to monitor things after starting medication. Patients, their families, and their caregivers should be encouraged to be alert to the emergence of anxiety, agitation, panic attacks, insomnia, irritability, hostility, aggressiveness, impulsivity, akathisia (psychomotor restlessness), hypomania, mania, other unusual changes in behavior, worsening of depression, and suicidal ideation, especially early during antidepressant treatment and when the dose is adjusted up or down. It takes up to 4-8 weeks for the full effect of medication to be seen (presuming the dose is sufficient and that it is the correct medication). During this time period the depression could continue to worsen and suicidality could emerge as part of the natural course of the illness. Or, in a person who presents with depression but is actually suffering from bipolar disorder (manic-depressive disorder), the use of an antidepressant in a small percentage of patients can trigger a switch into an overly-elevated mood stated termed hypomania or mania.

At this time, the bottom line is that there is an a 2% risk of suicide ideation among children being treated short-term with medication for major depression. Remember, there were no suicides in over 4400 cases reviewed by the FDA, but this risk is cited as people reported more suicidal ideas/thoughts. It is controversial whether it's better for a child to talk about his ideas, however frightening, or for a child to keep his potentially life-threatening ideations to himself. Is it better if a child talks about their ideas, however frightening, or if they keep them to themselves?

It is controversial whether it's better for a child to talk about his ideas, however frightening, or for a child to keep his potentially life-threatening ideations to himself. Thus, the risk/benefit ratio is unacceptable for venlafaxine or paroxetine. Still, overall the rates are vary for major depression in children and adolescents. Thus parents and doctors must carefully weigh the risks of medications and these must be balanced by the facts regarding non-treatment: 19% of 15-19 year olds think about suicide and 9% make a suicide attempt. Thirty-five to fifty percent of youth treated for depression make a suicide attempt. These are not small numbers.

Further, multiple studies have shown a decline in youth suicide rates directly correlated with increases in antidepressant use in adolescents. From an epidemiological perspective, this is highly suggestive of efficacy and a protective benefit to appropriately tailored pharmacotherapy. The studies in this important area continue to be published. The newest and largest study looked at over 62,000 cases being treated with medications for depression and did not show any higher rates of suicidality.

By staying informed and educated, but avoiding alarm, you and your doctor together can steer this ship. Proper monitoring after starting medication is the most important intervention; left untreated, major depression in children or adolescents can be deadly

Dr. Kaye,an assistant clinical professor of psychiatry and clinical behavior at Jefferson Medical College in Philadelphia, has a private practice in Wilmington, DE.

Infants and Cough Medicine

By Vikki Sloviter

If your infant or toddler has ever had a cough and/or cold, you've probably gone to your local drugstore to find something to help alleviate her symptoms. You headed for the aisle of cough and cold medicines and hoped you could find something to relieve her stuffy nose and cough. You spotted Children's Tylenol, but you couldn't use it because your child is under age six. Then you saw Infant Tylenol, which looked like it might do the trick. But then you read the carton carefully and realized it's for children over age two. But your child is under age two. What are you supposed to do?

On January 12, 2007, the Centers for Disease Control (CDC) and the National Association of Medical Examiners (NAME) released a report of a study where they investigated infant deaths due to cough and cold medicine use. In 2004-2005, more than 1,500 children under age two were treated in U.S. emergency rooms for medical events caused by cough and cold medications, and in 2005 three infants ages one month, three months and six months died as a result of being given too much cough and cold medicine.

In all three cases, the infants had abnormally high levels of pseudoephedrine, a nasal decongestant, in their blood samples. The pseudoephedrine concentrations of the three infants who died ranged from 4,743 ng/mL-7,100 ng/mL, more than ten times the recommended amount for children ages 2-12 (180 ng/mL-500 ng/mL). The six-month-old infant had been given prescription and over-the-counter cough/cold medications, both of which contained pseudoephedrine. And, two of the infants also had detectable levels of dextromethorphan, a cough suppressant, and acetaminophen in their blood samples. None of the children had a heart condition that might have attributed to their premature deaths, though two of the children were found to have had respiratory infection.

Since 1997, the American Academy of Pediatrics (AAP) has advised parents about the dangers of administering cough and cold medicines to infants, citing that cough suppressants aren't very effective in treating their symptoms, that there can be serious side effects in children so young, and parents could unintentionally give too much medicine. The AAP's recommendations are based on studies in children age two and younger that determined that cough and cold medicines are not much more effective than placebo in reducing cough and other upper respiratory infection symptoms in children under age two.

More recently, the FDA passed the Combat Methamphetamine Epidemic Act that bans over-the-counter sales of cold medicines that contain pseudoephedrine because that ingredient can be used to make methamphetamine. Consequently, many cough and cold medicines are now made with other nasal decongestants. However, many public health officials and doctors suggest that using a rubber suction bulb (with nasal saline to loosen mucus if necessary) or cool-mist humidifier is the best method to treat nasal congestion in children under age two.

Due to the dearth of information on the safety or toxicity of using cold and cough medicines in children under age two, the FDA does not provide a dosing regimen for that age group, which is why you can't find an over-the-counter cough and cold remedy designed for such young children. Instead, the FDA tells consumers to "consult a doctor" for safe dosing recommendations. Parents of infants should not take dosing into their own hands. Don't use a child's or adult's dosing recommendation to try to approximate a safe dose for an under-two child. Call your child's doctor who knows your child's medical history and any conditions she may have that could contraindicate the use of over-the-counter medications.

Visit the Website for More Articles, News, and Links to the Podcast.

Deconstructing Airborne: How to Recognize Medical Nonsense

By Mark Crislip, MD

It is estimated that it takes a decade of medical training before anyone can truly be expert in a medical field. You probably do not have ten years to spend getting to know the ins and outs of medicine. How, then, to recognize if a medical product is legitimate, questionable, or just plain garbage? Airborne Effervescent Health Formula is a popular 'cold remedy' that by some accounts sells 100 million dollars a year of product. Using Airborne as an example, let's go through the warning signs that a product may not be worth your hard-earned money.

Warning Sign #1: The product is pitched directly to the media, not to the medical community. With prescription pharmaceuticals, you can quickly discover if the indication is backed by legitimate scientific studies: look them up in the Physicians Drug Reference (the PDR). Every drug indication in the PDR has been studied and approved by the FDA. Legitimate, effective, medications are backed by randomized, placebo-controlled clinical studies published in peer-reviewed medical journals where the results are published in the PDR.

Not so with the directly marketed products. Herbal supplements and vitamins are not required to have proven safety and efficacy against any disease or condition. As long as they have a disclaimer such as "These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease," they are legal to sell to the public. Read Airborne's disclaimer.

Warning Sign # 2: The discoverer says that a powerful establishment is trying to suppress his or her work. It is often said that big pharmaceutical companies suppress data on the effectiveness of herbal preparations and will not perform studies because when clinical trials prove the efficacy of these supplements, people will use the cheap supplements instead of expensive pharmaceuticals. Unfortunately, many of these supplement companies are owned by big pharma, so they win either way. And, for $7.50 for ten tablets, Airborne isn't cheap.

Warning Sign #3: The health benefit involved is always at the very limit of detection. Airborne's website says: "Each ingredient in the Airborne formula has been repeatedly documented in published studies to contribute to a strong, healthy immune system." Only by a long stretch. Enter the ingredients of Airborne into Pubmed and search the medical literature. Be impressed with what you do not find.

"… Airborne had a marked effect on reducing the duration of symptoms. Our Medical Advisory Board members are currently formulating a study that… will further support Airborne's immune boosting properties." Which is it? Does it boost immune function, or does it reduce duration of symptoms? They aren't the same thing.

The immune system is a complex series of interacting proteins and cells. There is no meaningful way to measure the immune system in an average person, much less boost it. As long as you have reasonable diet and exercise, there is no way to measure any alleged weakness in your immune system.

What's in Airborne? Vitamins, herbal extracts, and amino acids that do nothing to prevent or treat a cold. Echinacea and Vitamin C, the most commonly touted cold remedies, when tested in careful clinical studies, are ineffective in treating colds. Only Zinc, as a throat lozenge but not an effervescent tablet, has been effective in decreasing cold symptoms. Zinc is Airborne's gateway drug. As long as their products contain Zinc, they can truthfully claim that the active ingredient has been proven in clinical trials to decrease cold symptoms.

Warning Sign #4: Evidence for a discovery is anecdotal. I hear it all the time: I thought I had a cold coming on, so I took [fill in the blank] and I did not get a cold, or the flu. I always tell medical residents that the three most dangerous words in medicine, especially when applied to treatments, are "in my experience…". The problem with anecdotes in medicine is that they suggest causalities where none exist. But humans love anecdotes. A personal story for most people is far more impressive than the soundest clinical trial. "40,000 customers contact [Airborne] every year…," but that claim is meaningless to support that Airborne works.

Warning Sign #5: The discoverer says a belief is credible because it has endured for centuries. Airborne contains a hodgepodge of Chinese herbs used for a variety of infectious disease. Most have never been tested rigorously or, in the case of echinacea, definitively shown not to work. There is little from 2000 years ago, or even 20 years ago, that I would use today. I would not wear 2000-year-old clothes or grow food with 2000-year-old farming techniques. Why use 2000-year-old medical therapies? Our ancestors were invariably wrong in large part, as they did not have a

scientific method to understand the world. And, unfortunately, they died young as a result.

Warning Sign #6: The discoverer has worked in isolation. Airborne was "created by a second-grade teacher." Americans do love the idea of the lone, underdog inventor, toiling away in a basement before becoming rich from inventing the pet rock or MS-DOS, or Airborne. I suppose that those who have the most exposure to snotty noses are those most expert in avoiding and treating them. But by the same reasoning I should own a brewery: experience in an area does not mean expertise.

Warning Sign #7: The discoverer proposes new laws of nature to explain an observation. Beware of any therapy that maps the entire body onto one area: the iris, the foot, bumps on the head. I saw an ad for a company in the Gadget Universe catalog that claims all the acupuncture sites are actually located in the hand. Now I get worried whenever I clap my hands. Also beware of the word "natural." Infections are natural. Death is natural. Natural is neither good nor bad. But like "organic," it sounds good.

Mark Crislip, MD, is board-certified in both internal medicine and infectious diesease. He has practiced infectious disease medicine in Portland, OR, for 16 years. He is the publisher of Quackcast, a website and podcast devoted to the skeptical evaluation of supplemental, alternative and complementary medicines, available at www.quackcast.com.

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